ITS

GTE Service Corporation
1850 M Street, N.W., Suite 1200
Washington, DC 20036
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213162

January 7, 1997

Mr. William Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. - Room 222
Washington, D.C. 20554

Re: **CC Docket 96-45, Federal-State Joint Board on Universal Service Proxy Cost Models**

Dear Mr. Caton,

GTE hereby submits responses to selected questions posed to proxy cost model proponents in the Public Notice, DA 96-2091, released by the Federal-State Joint Board on Universal Service on December 12, 1996. In addressing technical aspects of the proposed proxy models, GTE is not altering its basic position on their use, as expressed in GTE's Comments dated December19, 1996, on the recommended decision of the Joint Board.

Sincerely,

W. Scott Randolph
Director - Regulatory Affairs

cc: Docket 96-45 Federal State Joint Board and Joint Board Staff
Ms. Sheryl Todd, Universal Service Branch, 2100 M Street (computer diskette)
ITS

According to Mr. William L. Hahn, Inquiry Analyst at NBI, these prices represent the engineered, furnished and installed cost of new digital switches having a 5:1 line to trunk ratio (Telephone conversation with Dr. Lawrence P. Cole, GTE Laboratories Incorporated, October, 1996), but they do not include the cost of trunk ports (See letter to Ms. Robin Sanders, Bell Atlantic, September 20, 1996). This latter point is particularly relevant, because in Release 2, the "adjustment" that Hatfield Associates makes to the per-line prices contained in Exhibit 3.34 for 1995 is to subtract $16 per line for trunk ports, which then appears in the interoffice facilities module. But subtracting it from where it wasn't and adding it in elsewhere, still leaves it out.

As Mr. Hahn's letter to Ms. Sanders makes clear, the NBI estimates are not based on a model nor a lot a data. Rather, they are based on interviews with carriers and vendors by the NBI analyst (who is no longer with the firm), and on public contract announcements. There is no way of knowing what the carriers and vendors, both of whom normally regard prices paid for switches as highly proprietary, as has been demonstrated in several recent regulatory proceedings, revealed to the NBI analyst. But it should be possible to go back and look at public contract announcements in the period 1991-1994 and see what information they contained. Of particular interest would be the extent to which the contracts were for comparable packages of hardware, software and labor. One such announcement was made by Pacific Bell in January 1993. It covered 9 million lines and worked out to about $110 per line, but the contracts excluded investments for line terminations, main distribution frames, and fiber interfaces. Did the NBI analyst know this? What adjustments did he make for it? We simply don't know.

NORTEL

News Releases

June 16, 1997

Contact:

Joanne Latham
Nortel
919-992-7851
joanne_latham@nt.com

U S WEST Awards Switching Contract to Nortel (Northern Telecom)

DENVER, Colo. - U S WEST Communications recently entered into a multi-year contract with Nortel (Northern Telecom) to purchase Nortel's DMS central office switching upgrades for its network. The contract resulted from a competitive bid process used by U S WEST. It centers around replacing older analog switching technology with 2.2 million lines of Nortel's DMS-100 product. The multi-year contract is valued in excess of $US 100 million and was reflected in Nortel's recent announcement of $US 329 million of new business with a number of local and long distance companies.

The Nortel upgrade of analog systems in the contract means that U S WEST subscribers will be able to receive advanced digital features, such as ISDN, network business services, and advanced display services for both home and business.

To assist U S WEST in meeting future customer demands, Nortel will keep U S WEST's network ready for new services, such as Local Number Portability and for Advanced Intelligent Network (AIN) features, by providing memory capacity and processor upgrades to existing DMS-100 systems in the network over the next several years.

"Nortel is the only U S WEST supplier that provides both digital switching and SONET products," stated John Czak, Customer Supplier Team Executive Sponsor for U S WEST.

"We're honored to be selected by U S WEST as one of its major suppliers for the modernization of its network," said Craig London, vice president, Western Region, Nortel. "U S WEST has done an excellent job in providing its customers with the latest technology available today."

U S WEST Communications (NYSE: USW) provides telecommunications and high-speed data services to more than 25 million customers in 14 western and midwestern states. The company is one of two major groups that make up U S WEST, which is in the connections business - helping customers share information, entertainment and communications services in local markets worldwide. U S WEST's other major group, U S WEST Media Group (NYSE: UMG), is involved in domestic and international cable and wireless networks, directory publishing and interactive multimedia services.

Nortel Public Carrier Networks, a business unit of Nortel, is a supplier of telecommunications products and services to public carriers, including a full range of solutions for Internet access and telecommuting, from analog access systems through advanced services like digital subscriber line and hybrid fiber-coax. Nortel Internet Thruway, announced in August 1996, is a multi-vendor solution for rapidly increasing modem traffic that can help to lower the cost of handling the traffic while allowing the public carrier to generate new revenue from ISPs.

Nortel had 1996 revenues of $12.8 billion and has approximately 68,000 employees worldwide.

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EX PARTE OR LATE FILED

Sprint

Warren D. Hannah
Director, Federal Regulatory Relations

1850 M Street, NW, Ste. 1100
Washington, DC 20036
Telephone (202) 828-7452
Fax (202) 296-3469

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EX PARTE

March 24, 1997

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. Room 222
Washington, D.C. 20554

RE: In the Matter of Federal-State Joint Board on Universal Service - CC Docket No. 96-45

Dear Mr. Caton,

On Friday, March 21, 1997, representatives of Sprint Corporation met with members of the Commission's Common Carrier Bureau and Office of General Counsel to discuss the use of proxy cost models in the above referenced proceeding. Representing the Commission were:

John Nakahata	C. Anthony Bush	Brian Clopton
Bob Loube	Jeanine Poltronieri	Bill Sharkey
Brad Wimmer		

Representing Sprint were:

Jim Dunbar	Warren Hannah	Jay Keithley
Jim Sichter		

Attachment A is a copy of the materials used in the meeting. Sprint urges the Commission to adopt the BCPM as the platform model for determining USF funding. The materials present Sprint's proposal for accomplishing this objective. The information provides results of the BCPM "run" with Sprint proposed inputs. This proposal, and the model input changes, represent the position of Sprint Corporation only, and not that of the other BCPM model sponsors.

Material Costs

Digital Carrier Cost Table

Cost for Digital Loop Carrier				
Dlc Fiber Size	FCC Filing Fixed Cost	FCC Filing Per Line Cost	Sprint Run Fixed Cost	Sprint Run Per Line Cost
0	$ 38,867.00	$ 92.81	$ 10,395.00	$ 250.00
49	$ 53,577.00	$ 92.81	$ 11,475.00	$ 250.00
121	$ 84,976.00	$ 92.81	$ 14,175.00	$ 250.00
241	$ 92,147.00	$ 92.81	$ 92,147.00	$ 92.81
673	$ 125,120.85	$ 92.81	$ 125,120.85	$ 92.81
1335	$ 217,267.85	$ 92.81	$ 217,267.85	$ 92.81

CO Switch Cost Table

Company Size	FCC Filing Fixed/Startup $	FCC Filing Per Line $	FCC Filing Power and Common Equipment %	Fcc Filing Telco Install and Engineering %	Sprint Run Fixed/Startup $	Sprint Run Per Line $	Sprint Run Power and Common Equipment %	Sprint RunTelco Install and Engineering %
S	$ 261,871.00	$ 225.00	6.82%	5.77%	$ 150,000.00	$ 110.00	6.82%	5.77%
M	$ 261,871.00	$ 225.00	6.82%	5.77%	$ 150,000.00	$ 110.00	6.82%	5.77%
L	$ 261,871.00	$ 225.00	6.82%	5.77%	$ 150,000.00	$ 110.00	6.82%	5.77%

Conduit Manhole Table

FCC Filing				Sprint Run			
% Assigned Telephone	Cost of installed facility assigned telephone			% Assigned Telephone	Cost of installed facility assigned telephone		
	Normal	Soft Rock	Hard Rock		Normal	Soft Rock	Hard Rock
75%	$ 1,008.00	$ 1,158.00	$1,308.00	66%	$ 887.04	$ 1,019.04	$1,151.04
90%	$ 3,404.93	$ 3,764.93	$4,124.93	66%	$ 2,496.95	$ 2,760.95	$3,024.95
80%	$ 4,512.00	$ 4,832.00	$5,152.00	66%	$ 3,722.40	$ 3,986.40	$4,250.40
80%	$ 2,640.00	$ 2,800.00	$2,960.00	66%	$ 2,178.00	$ 2,310.00	$2,442.00
100%	$ 0.83	NA	NA	100%	$ 0.83	NA	NA

Buried Structure

Density Group 0-10

Buried Cable Installation	Normal Feeder FCC Filing % Assigned Telephone	Normal Feeder Sprint Run % Assigned Telephone	Normal Distribution FCC Filing % Assigned Telephone	Normal Distribution Sprint Run % Assigned Telephone	Soft Rock Feeder FCC Filing % Assigned Telephone	Soft Rock Feeder Sprint Run % Assigned Telephone	Soft Rock Distribution FCC Filing % Assigned Telephone	Soft Rock Distribution Sprint Run % Assigned Telephone	Hard Rock Feeder FCC Filing % Assigned Telephone	Hard Rock Feeder Sprint Run % Assigned Telephone	Hard Rock Distribution FCC Filing % Assigned Telephone	Hard Rock Distribution Sprint Run % Assigned Telephone
Plow	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Rocky Plow	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Trench & Backfill	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%
Rocky Trench	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%
Backhoe Trench	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%
Hand Dig Trench	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%
Bore Cable	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%
Push Pipe & Pull Cable	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%
Cut & Restore Asphalt	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%
Cut & Restore Concrete	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%
Cut & Restore Sod	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%	100.00%	66.00%

Density Group 11-50

Buried Cable Installation	Normal Feeder FCC Filing % Assigned Telephone	Normal Feeder Sprint Run % Assigned Telephone	Normal Distribution FCC Filing % Assigned Telephone	Normal Distribution Sprint Run % Assigned Telephone	Soft Rock Feeder FCC Filing % Assigned Telephone	Soft Rock Feeder Sprint Run % Assigned Telephone	Soft Rock Distribution FCC Filing % Assigned Telephone	Soft Rock Distribution Sprint Run % Assigned Telephone	Hard Rock Feeder FCC Filing % Assigned Telephone	Hard Rock Feeder Sprint Run % Assigned Telephone	Hard Rock Distribution FCC Filing % Assigned Telephone	Hard Rock Distribution Sprint Run % Assigned Telephone
Plow	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Rocky Plow	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Trench & Backfill	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%
Rocky Trench	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%
Backhoe Trench	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%
Hand Dig Trench	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%
Bore Cable	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%
Push Pipe & Pull Cable	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%
Cut & Restore Asphalt	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%
Cut & Restore Concrete	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%
Cut & Restore Sod	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%	97.50%	66.00%	95.00%	66.00%

Benchmark Cost Proxy Model Results

Area Wide Summary Report

National
Multiple States [50]

	Uncapped Annual Amount	Capped[1] Annual Amount
Investment Per Line Data		
Loop Investment	$ 947	$ 943
Switch Investment	$ 119	$ 119
IOF Investment	$ 4	$ 4
Other Investment	$ 67	$ 67
Total Investment	$ 1,137	$ 1,133
Expense Per Month Data		
Capital Cost	$ 17.86	$ 17.79
Operating Expense per Line	$ 11.34	$ 11.34
Total Cost per Line	$ 29.20	$ 29.14
Gross Receipts Tax[2]	$ 1.19	$ 1.18
Line Data		
Average Loop Length in Feet	17,273	
Lines Above $10K Loop Inv	132,299	
Number of Households	96,900,089	
Number of Residential Lines	109,771,932	
Number of Single Business Lines	12,866,289	
Multiple Business Lines	40,587,934	
Total CBG Lines Served	163,226,155	
Aggregate Support Data		
Support Over $20 Benchmark	$ 15,230,979,431	$ 15,120,870,243
Support Over $30 Benchmark	$ 8,431,506,350	$ 8,321,397,162
Support Over $40 Benchmark	$ 5,091,487,444	$ 4,981,378,256
Support Over $50 Benchmark	$ 3,031,058,347	$ 2,920,949,159
Support Over $60 Benchmark	$ 1,780,377,756	$ 1,670,268,568
Support Over $70 Benchmark	$ 1,101,013,503	$ 990,904,315
Support Over $80 Benchmark	$ 746,332,922	$ 636,223,734

[1] CBGs with Average Loop Investment per line over $10,000 are capped at $10,000

[2] Application varies so much on a state by state basis, it is not included in the Monthly Cost.

Assumptions:
SPRINTDISCOUNTBASE.CSV, CapcostSprintDiscount.inf
BCPMSprint.xls
USF with Sprint Discounted Cable Prices (0% discount applied)

TESTIMONY OF JERRY HAUSMAN

FOR PACIFIC BELL

APRIL 8, 1998

Testimony of Professor Jerry Hausman

April 7, 1998

1. Q. Please state your name and business address.

A. My name is Jerry A. Hausman. I am the MacDonald Professor of Economics at the Massachusetts Institute of Technology in Cambridge, Massachusetts, 02139.

2. Q. Please state your educational background and areas of teaching and research.

A. I received an A.B. degree from Brown University and a B.Phil. and D. Phil. (Ph.D.) in Economics from Oxford University where I was a Marshall Scholar. My academic and research specialties are econometrics, the use of statistical models and techniques on economic data, and microeconomics, the study of consumer behavior and the behavior of firms. I teach a course in "Competition in Telecommunications" to graduate students in economics and business at MIT each year. I am also the director of the MIT Telecommunications Economics and Business Research Program. I was a member of the editorial board of the Rand (formerly the Bell) Journal of Economics for the past 13 years. The Rand Journal is the leading economics journal of applied microeconomics and regulation. In December 1985, I received the John Bates Clark Award of the American Economic Association for the most "significant contributions to economics" by an economist under forty years of age. I have received numerous other academic and economic society awards. A copy of my curriculum vitae is attached as Appendix 1.

3. Q. Please describe your prior experience in telecommunications research.

A. I have done significant amounts of research in the telecommunications industry. My first experience in this area was in 1969 when I studied the Alaskan telephone system for the Army Corps of Engineers. Since that time, I have studied the demand for local measured service, the demand for intrastate

Bradley, Future Competition in Telecommunications, Harvard Business School Press, 1989, p. 204). Today, the prices of new AT&T 5-ESS switches and similar NTI switches are in the $70 per line or lower range.[6] A BOC who paid $200 per line made the efficient investment decision when it purchased its COS. But TELRIC, by omitting economic depreciation due to technological progress, leads to a systematically downward biased estimate of costs. Indeed, I have estimated the rate of price decrease of central office switches to be near 8% per year over the past five years, while the cost of fiber optic carrier systems has decreased at approximately 7% per year over the same period. The omitted economic factor δ can be quite large relative to r, the traditional ILEC cost of capital used by regulators, for telecommunications switching or transmission equipment due to technological progress. Thus, omitting the economic factor δ can lead to a significant underestimate of TELRIC. Prices set on the basis of the underestimated TELRIC will be too low, and the ILEC will be required to sell its unbundled elements at a price below their economic cost. This outcome will cause an inefficiently low level of investment by an ILEC because it will not recover its cost of investment. For existing plant and equipment the regulators will be requiring the ILEC to sell unbundled elements below the economic cost which can create financial problems for the ILEC and will discourage future investment because the ILEC will not have a credible commitment from the regulator that it will recover the cost of new investment.

13. Q. What is the third factor which TELRIC calculations omit?

A. TELRIC calculations recognise the fixed nature of much investment in telecommunications networks, but TELRIC calculations fail to recognize the sunk and irreversible nature of many investments in telecommunications networks.[7] TELRIC makes no allowance for the sunk and irreversible nature of

[6] This price is for a replacement (changeout) of an existing switch.

[7] A fixed cost is a cost which does not vary with the level of output during a given period.

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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In the Matter of	
1998 Annual Access Tariff Filings	
Bell Atlantic Telephone Companies Tariff FCC No. 1	Transmittal No. 1057
NYNEX Telephone Companies Tariff FCC No. 1	Transmittal Nos. 505, 507

OPPOSITION OF BELL ATLANTIC TO PETITIONS TO SUSPEND AND INVESTIGATE

Michael E. Glover
Of Counsel

Joseph DiBella
1320 North Court House Road
Eighth Floor
Arlington, VA 22201
(703) 974-6350

Attorney for the Bell Atlantic telephone companies

Dated: June 26, 1998

The short answer is that Bell Atlantic made no such assumption. Since approximately 97 percent of Bell Atlantic's switches were digital in 1997,[4] Bell Atlantic assumed 100 percent digital switches in its study of 1997 line port costs. Bell Atlantic then used the historical growth rate in local switching revenue requirements to project those line port costs from 1997 to the 1998-99 tariff period. This is a reasonable approach, since the percentage of line port costs in the tariff period obviously cannot exceed 100 percent. Likewise, since the general decline in switching costs has continued even after the conversion from analog to digital switches was made, it is eminently reasonable for Bell Atlantic to use the trend in actual local switching costs from 1991 to 1997 as a basis for forecasting total switch costs in general, and line port costs in particular.

MCI also argues that Bell Atlantic's line port costs are too low because they are a substantially smaller percentage of Bell Atlantic's total switch costs than the percentage of switch costs that the industry as a whole identified as nontraffic sensitive in the access charge reform proceeding. ***See*** MCI at 5-6, *citing* Access Charge Reform Order, 12 FCC Rcd 15982 (1997) at ¶131. However, the industry figure cited in that order included both line port costs and trunk port costs. In the Access Charge Reform Order, the Commission only assigned line port costs to the base factor portion; trunk port costs were moved from the local switching rate element to new trunk port rate elements. ***See*** Access Charge Reform Order at ¶127.

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[4] ***See*** Table I, row 0173 of Bell Atlantic's ARMIS Report 43-07 for calendar year 1997.

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS

100 Washington Square, Suite 1700
100 Washington Avenue South
Minneapolis, Minnesota 55401-2138

April 2, 1998

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AT&T Corp. Legal - Denver
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Burl W. Haar
Executive Director
Minnesota Public Utilities Commission
350 Metro Square Building
121 Seventh Place East
St. Paul, Minnesota 55101

RE: In the Matter of the State of Minnesota's Possible Election to Conduct Its Own Forward-Looking Economic Cost Study to Determine the Appropriate Level of Universal Service Support; OAH Docket No. 12-2500-11342-2; MPUC Docket No. P-999/M-97-909.

Dear Dr. Haar:

Enclosed herewith and served upon you by mail is the Report of the Administrative Law Judge in the above-entitled matter.

Also enclosed is the original Proposed "Text Document" from MCI and AT&T. It will have to be modified to show the input changes ordered by the Commission.

Also enclosed is a disk containing copies of my Report and the "Text Document" in various word processor formats. The FCC requires that the final "Text Document" be submitted in WordPerfect 5.2 format.

The Exhibits and Transcript will be delivered to you tomorrow and the rest of the official record will be delivered next week. Our file in this matter is now being closed.

rec'd w/o disk 4/3/98 PF

Sincerely,

STEVE M. MIHALCHICK
Administrative Law Judge
Telephone: 612/349-2544

SMM:lc
enclosure

cc: Persons on attached Service List (Report only)

OAH Docket No. 12-2500-11342-2
MPUC Docket No. P-999/M-97-909

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS

FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION

In the Matter of the State of Minnesota's Possible
Election to Conduct Its Own Forward-Looking
Economic Cost Study to Determine the
Appropriate Level of Universal Service Support

REPORT OF THE ADMINISTRATIVE LAW JUDGE
ON SELECTION OF COST STUDY

aggregate default value for the percentage of structure costs bome by the telephone company. FNPRM, ¶¶ 80-81. Both models permit users to vary sharing percentages, although the default value for plowed-cable submitted with the HM is not 100%. DPS Ex. 112 (Legursky 1/23/98) at 19. Neither model was submitted with aggregate default sharing values of 66%.

133. The structure sharing assumption has a significant impact on outside plant costs. The HM sponsors contend that an efficient carrier would aggressively seek out sharing opportunities and would need to absorb only 33% of structure costs. The BCPM sponsors assumed to the contrary that there would be little sharing in the scorched node context because only telephone facilities are "scorched." DPS Ex. 113 (Legursky 2/3/98) at 7. However, U S WEST witness Dr. Fitzsimmons testified that Mr. Legursky's recommended value was within the range of reasonableness. Tr. 280. Again, this parameter should be set at a value that approximates current practice. The decision on this issue should be based on what efficient forward-looking carriers are experiencing in the way of structure sharing today. Ex. 115 at 15 (Fagerlund 1/23/98). On this basis, Department contends the appropriate percentage of structure cost the telephone company should absorb in aggregate is 66%. DPS Ex. 113 (Legursky 2/3/98) at 8-9. This is the roughly the midpoint of the percentage range of sharing which Mr. Kaalberg, Network Service President of McLeod USA, testified to the Iowa Commission that his company was able to achieve as a result of its aggressive search for sharing opportunities. USW Ex. 45 (Fitzsimmons 1/23/98) at 25. It is also the sharing percentage recommended by Sprint and by the Federal-State Joint Board. FNPRM, ¶ 78. The ALJ agrees.

Labor Factor

134. Dr. Fagerlund recommends that a regional labor adjustment factor of .99 for Minnesota be used because labor costs in Minnesota are one percent less than the default level for labor costs in the HM. This factor adjusts the wage portion of facility installation costs. The Department used this factor in its HM runs. DPS Ex. 115, EF 1 (1/23/98) at 5. The ALJ agrees.

Switch costs

135. The FCC tentatively concluded that the selected model should incorporate its staff's estimates of switching costs, namely, a fixed cost of $185,374.00 and per-line cost of $107.00. It sought comment on that conclusion. FNPRM, ¶ 132.

136. Both models can use the FCC switch cost as inputs, but both use their own defaults. Mr. Legursky analyzed the HM and BCPM switching modules to determine whether either module produced results in line with his knowledge of actual switching costs. Tr. 974. He concluded that the HM's results were "much better, but still conservative." Tr. 954.

137. Mr. Legursky acknowledged that the HM derived switch costs from a regression curve calculated from just four data points. Tr. 973. His concern however, was not with

the derivation of the cost curve, but rather with whether the curve generated accurate cost estimates. He testified: "I have absolute confidence in the results that are produced by the regression curve." Tr. 975. Mr. Legursky described the results of the BCPM methodology as "terrible" and as "way out of line with current industry practice." Tr. 953-54. While he approved of the BCPM methodology for computing switch costs, Mr. Legursky noted that the methodology relied on proprietary information that for practical purposes is not reviewable. DPS Ex. 112 (Legursky 1/23/98) at 25. He also testified that ". . . one model may have a superior methodology and not produce a superior result. . . ." Tr. 1020.

138. Mr. Legursky is knowledgeable of actual switching costs through his familiarity with Ameritech's switch contracts, his knowledge of the switch contracts of other RBOCs, and because he reviewed U S WEST switch contracts in connection with his work for the Department. Tr. 954, 974. Based upon his opinion, the ALJ finds that the HM's switching curve should be used for determining switching costs, rather than the FCC staff numbers.

Interoffice Trunking, Signaling, And Local Tandem Investment

139. The FCC tentatively concluded that the selected model should calculate specific cost estimates for the interoffice elements (i.e. interoffice trunking, signaling and local tandem facilities). FNPRM, ¶ 141. Both models deploy SONET ring technology to connect stand-alone switches to tandems, to connect remote to host switches, and to connect host switches to tandems. Neither model employs an optimizing algorithm in creating SONET rings and neither stores intermediate data to detail specific locations, capacity, or utilization of rings. Neither model appears to have an advantage in this area. DPS Ex. 112 (Legursky 1/23/98) at 26.

Allocating Non-Facility Expenses

140. The purpose of the cost models is to develop a cost for the supported services on a per line basis. Thus, all costs must be assigned to lines. The parties to this proceeding have proposed two general methods for allocating general overhead and support expenses to lines. One approach is to allocate such costs based upon all or some subset of facility investments. The second approach is to allocate such costs on a per line basis, regardless of the differences in the amounts invested in each line. The FCC has tentatively concluded that the preferred model should provide the user with the capability to calculate each category of expense based on either an investment basis or a per line basis, at the user's election. FNPRM, ¶ 157. Both models generally comply with the FCC requirement that users be able to specify whether each category of expense should be allocated on a per line or per dollar of investment basis. DPS Ex. 115, EF 1 (1/23/98) at 41. Testimony at the hearing, however, indicated that with some categories of expense, such as general and administrative costs and executive and planning costs, could not be entered into BCPM on an investment basis. Tr. 149. In general, it appears that only plant-specific expenses can be placed on either a per line or on an investment basis in BCPM. Tr. 163.

SUPPLEMENTAL DIRECT TESTIMONY

OF

BILL BOLLINGER

BEFORE THE

NORTH CAROLINA UTILITIES COMMISSION

ON BEHALF OF

CAROLINA TELEPHONE AND TELEGRAPH COMPANY

AND

CENTRAL TELEPHONE COMPANY

DOCKET NO. P-100, SUB 133d

FEBRUARY 16, 1998

SUPPLEMENTAL DIRECT TESTIMONY OF

BILL BOLLINGER

BEFORE THE

NORTH CAROLINA UTILITIES COMMISSION

DOCKET No. P-100, SUB 133d
FEBRUARY 16, 1998

Q. **Please state your name, occupation, and business address.**

A. My name is Bill Bollinger. I am presently employed as Manager - Network Costing and Pricing for Sprint/United Management Company. My business address is 4220 Shawnee Mission Parkway, Fairway, Kansas 66205.

Q. **Are you the same person who filed testimony December 15, 1997, regarding cost studies for Switching/Features, Call Termination, Interim Number Portability, Tandem Switching and Annual Charge Factors on behalf of Carolina Telephone and Telegraph Company and Central Telephone Company (hereafter collectively referred to as "Sprint")?**

A. Yes.

Q. **What cost studies, if any, have changed from the December 15 submittal?**

A. The switching cost study has been changed to incorporate the switch discount associated with new switch purchases. The original cost study reflected a growth switch discount representative of additional investment to current switches. Sprint has determined that a new switch discount is more representative of forward looking switching costs than a growth switch discount. The result of this change is to reduce the Switch Port, Minute of Use, Features, Local Call Termination, Interim Number Portability and Tandem Switching Elements. In addition to the above-mentioned change, the Local and Tandem Trunk investment and minutes of use were combined. The result of this change nets to zero and is used to provide for an average trunk cost per switch whether the trunk is utilized for local switching or tandem switching.

Q. Does this conclude your supplemental direct testimony?

A. Yes.

Attachment A

DOCUMENT OFF-LINE

This page has been substituted for one of the following:

o An oversize page or document (such as a map) which was too large to be scanned into the RIPS system.

o Microfilm, microform, certain photographs or videotape.

o Other materials which, for one reason or another, could not be scanned into the RIPS system.

The actual document, page(s) or materials may be reviewed by contacting an Information Technician. Please note the applicable docket or rulemaking number, document type and any other relevant information about the document in order to ensure speedy retrieval by the Information Technician.

AT&T/WCOM Response to Record Requests

Date	No.	Page	Description
11-28-01	9	5323	What remote terminal line concentration ratio do AT&T and Worldcom use to engineer their own CLEC-facilities-based networks when they use GR-303 technology, assuming that they use such technology at all?

AT&T Response:

This response contains information proprietary to AT&T.

AT&T/WCOM Response to Record Requests

Date	No.	Page	Description
11-28-01	10	5336	Please indicate, for AT&T and Worldcom separately, for each of the three switches that each most recently installed for use in providing CLEC-facilities-based services (hereafter the "six CLEC record request switches"), the ratio of the capitalized value of the initial capital outlay for engineering, furnishing, and installing the switch to the capitalized value of the initial capital outlay for the physical material of the switch, *i.e.*, calculate the EF&I ratio for each new switch job. Please document in detail the methodology, assumptions, calculations, and data used to develop these ratios.

AT&T Response:

This response contains information that is proprietary to AT&T.

AT&T/WCOM Response to Record Requests

Date	No.	Page	Description
Not previously asked			Please indicate whether the prices that AT&T and Worldcom paid for the six CLEC record request switches were based on vendor contracts or the result of competitive bidding. For each switch for which the price was a result of a competitive bid process, please submit the competitive bid sheets for each vendor that made a bid. Please document any adjustments made to these competitive bid sheets.

AT&T Response:

AT&T typically issues an RFP every year or so. Several vendors bid on the RFP. AT&T then selects the vendor from which it will purchase switches for the next year or so. Once the vendor is selected, AT&T and the vendor enter into a contract for the purchase and EF&I of the switches to be purchased in the designated timeframe.

AT&T/WCOM Response to Record Requests

Date	No.	Page	Description
11-29-01	7	5392	Please submit copies of all discovery requests and responses to these requests relating to Verizon's October 18, 2001 end office switching study, Verizon's November 2, 2001 tandem switching study, and AT&T/Worldcom's September 21, 2001 switching and transport module.

AT&T/WCOM Response:

Please see the files on the enclosed CD.

AT&T/WCOM Response to Record Requests

Date	No.	Page	Description
11-29-01	14	5410	In answering the following questions, please assume that each month an average CLEC end user makes 50 local intra-switch calls, 150 local inter-switch calls, 25 long distance calls (for which the CLEC provides access using UNE-P), and that two percent of the local inter-switch calls and 20 percent of the access calls are tandem-routed. Under Verizon's proposed rates for unbundled signaling, does a UNE-P CLEC pay $343.41 per signal transfer point (STP) port per month and $0.16 per SS7 link per mile for signaling? If so, how many STP ports, SS7 links, and link miles would a UNE-P CLEC purchase to serve an average end user each month? If not, what per unit rates does a UNE-P CLEC pay for signaling, and how many units at these prices would a UNE-P CLEC purchase to serve an average end user each month? Please document completely the development of the UNE-P CLEC's demand for unbundled signaling elements. Under AT&T/Worldcom's proposed rates for unbundled signaling, does a UNE-P CLEC pay $8.94 per link per month, $0.00009 per signaling message for STPs, and $0.00103 per query for the service control points (SCPs) for signaling? If so, how many links, signaling messages, and queries would a UNE-P CLEC purchase to serve an average end user each month? If not, what per unit rates does a UNE-P CLEC pay for signaling, and how many units at these rates would a UNE-P CLEC purchase to serve an average end user each month? Please document completely the development of the UNE-P CLEC's demand for unbundled signaling elements.

AT&T Response:

Separate SS7 charges do not apply in instances where a CLEC is using unbundled switching, such as in a UNE-P scenario. Separate SS7 charges would apply, however, when a facilities-based CLEC orders unbundled signaling for its originating traffic.

A UNE-P CLEC which orders a platform from Verizon will pay for the call signaling function as a part of the switching charges, because Verizon's originating and terminating switching rates already included the SS7 signaling costs. See VZ-VA filing, Part C-8 Switch_MOU. Therefore, the proposed rates for unbundled signaling (e.g. STP port per month, SS7 Link, and SCP per query) would not apply

Date	No.	Page	Description
11-29-01	14	5410	CONTINUED

separately in the calculation of a UNE-P cost. Adding these rates separately would be double recovery.

However, a facilities-based CLEC would pay the separate unbundled signaling charges when the CLEC ordered the SS7 elements to directly connect to Verizon's SS7 network to provide SS7 signaling for the CLEC's originating traffic.

AT&T/WCOM Response to Record Requests

Date	No.	Page	Description
11-29-01	N/A	5606	Please provide in electronic form the attachments to AT&T/WorldCom's response to Data Request 14-10.

AT&T/WCOM Response:

Please see the file titled "Response 10.a.zip" on the enclosed CD.

AT&T/WCOM Response to Record Requests

Date	No.	Page	Description
11-29-01	21	5608	Please provide workpapers and any other supporting documentation regarding the proposed correction, discussed by Mr. Turner, to include special access circuits in the algorithm for calculating ADM count at remote switches.

AT&T/WCOM Response:

Please see the files on the enclosed CD.